Cognitive Enhanced Interfaces

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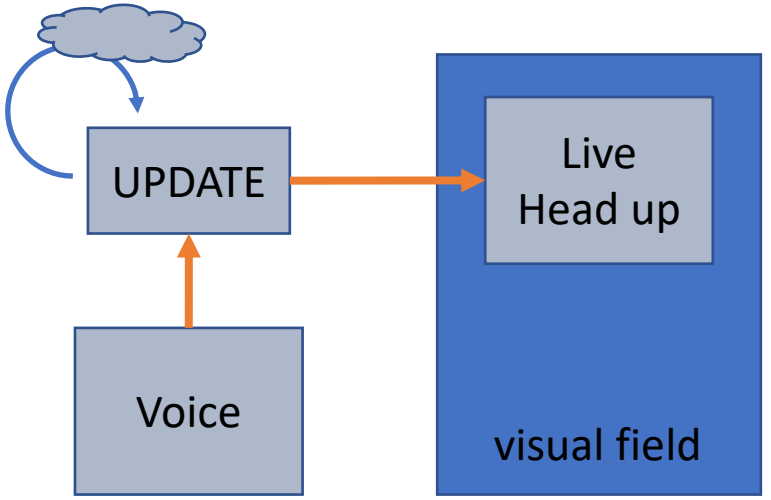
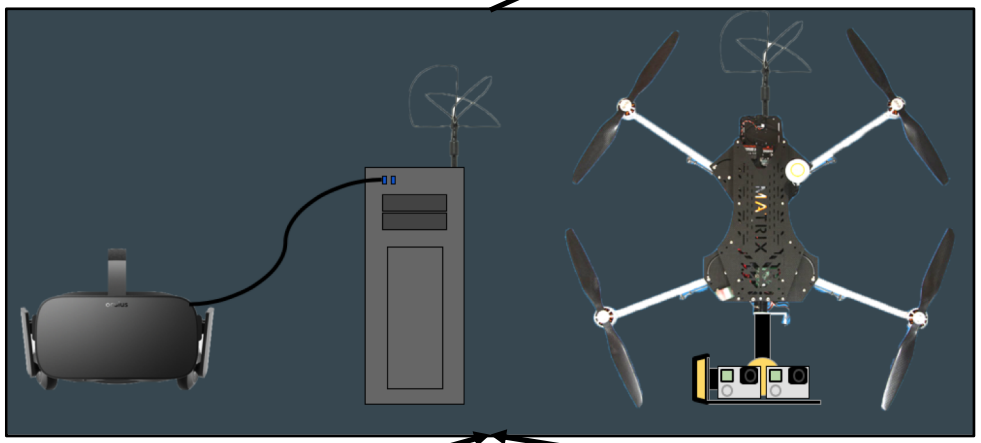
Use Case 1: Drones, swarms, head up displays, VR

- Head up displays in drone VR displays are better voice activated
- Drone control and information gathering, synthesis, & understanding
- Natural Language Interaction
- Live update of head up displays
- = AI & VR

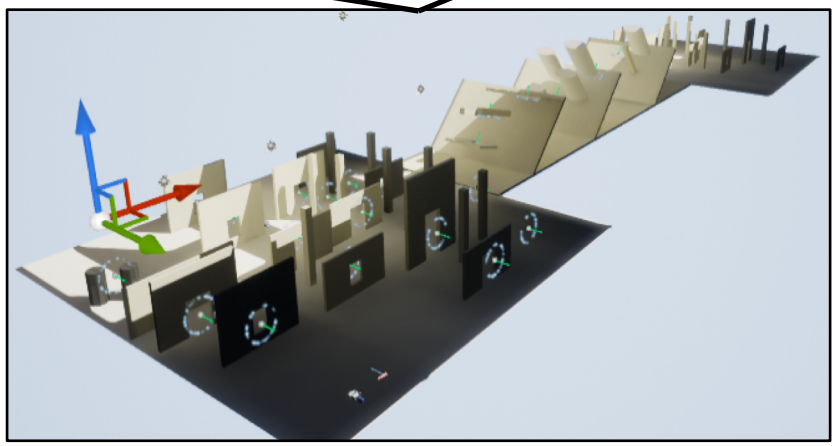


Use Case 1 example:
UM Team ARMIT 2017

CONOPS: COGNITIVE DASHBOARD ENABLED HEADS UP DISPLAY



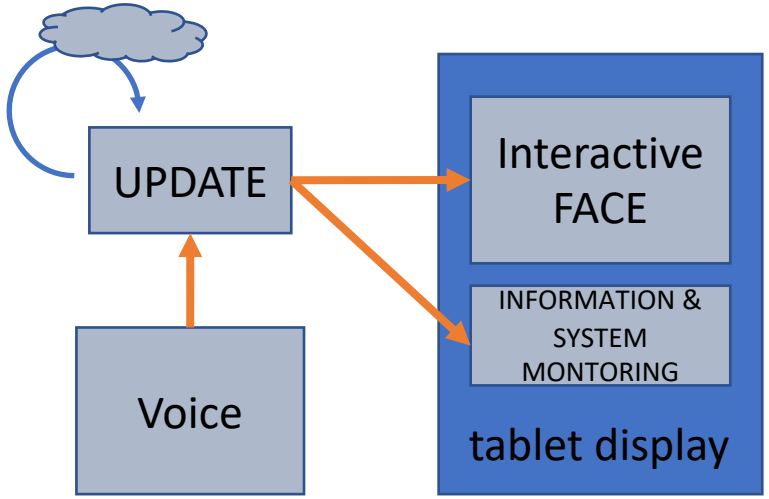
OCCULUS VR



VR GAME TRAINING ENVIRONMENT

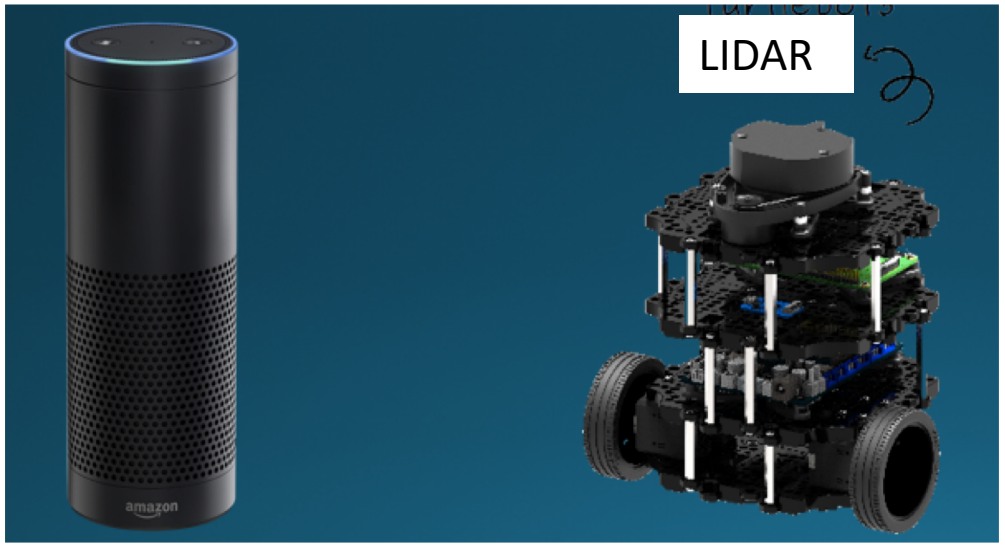
Use Case 2 example: Monitoring for Healthcare Robots

- Sensor laden assistive robot
  - Physical platform
- Natural Language Interaction, movement and control
- Multi modal interface – visual, aural, gesture
- Electronic health records, management & interface



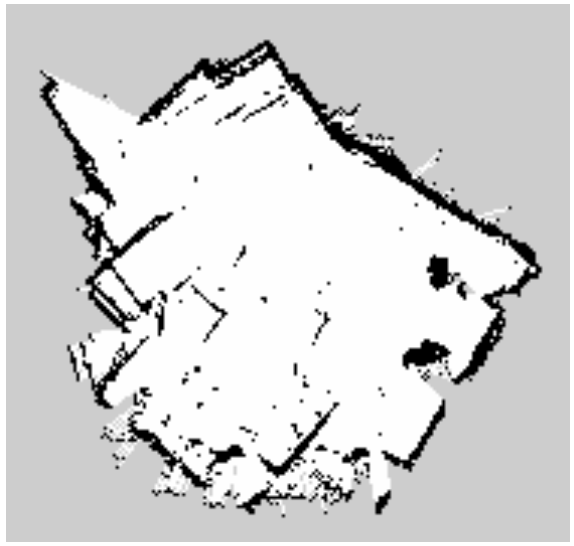
Use Case 2 contd:

Platform Explorations & NLI
S. Katragada 2017



ALEXA

TURTLEBOT

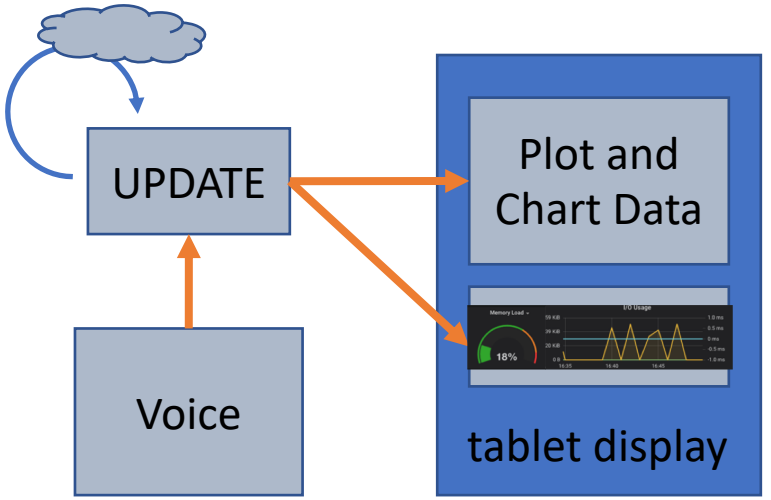


DEPTHMAP

CONOPS: COGNITIVE ENHANCED MONITORING AND MANIPULATION

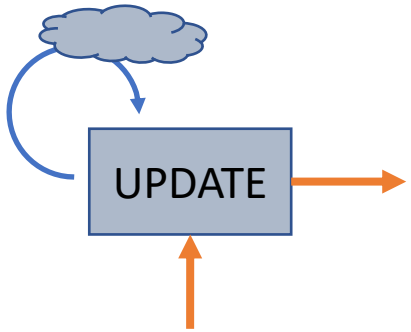
Use Case 3: Cognitive Interfaces for Monitoring

- eg Mobile Device - Tablet
- Natural Language Interaction, Gestures
- Multi modal interface – visual, aural, gesture
- Manipulation and Display of of Data
  - NRealtime Monitoring
  - Graphs and Charts
- Engineering and Technical Floor rooms
  - Interaction with Facilities

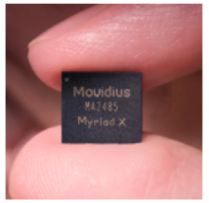


Processing

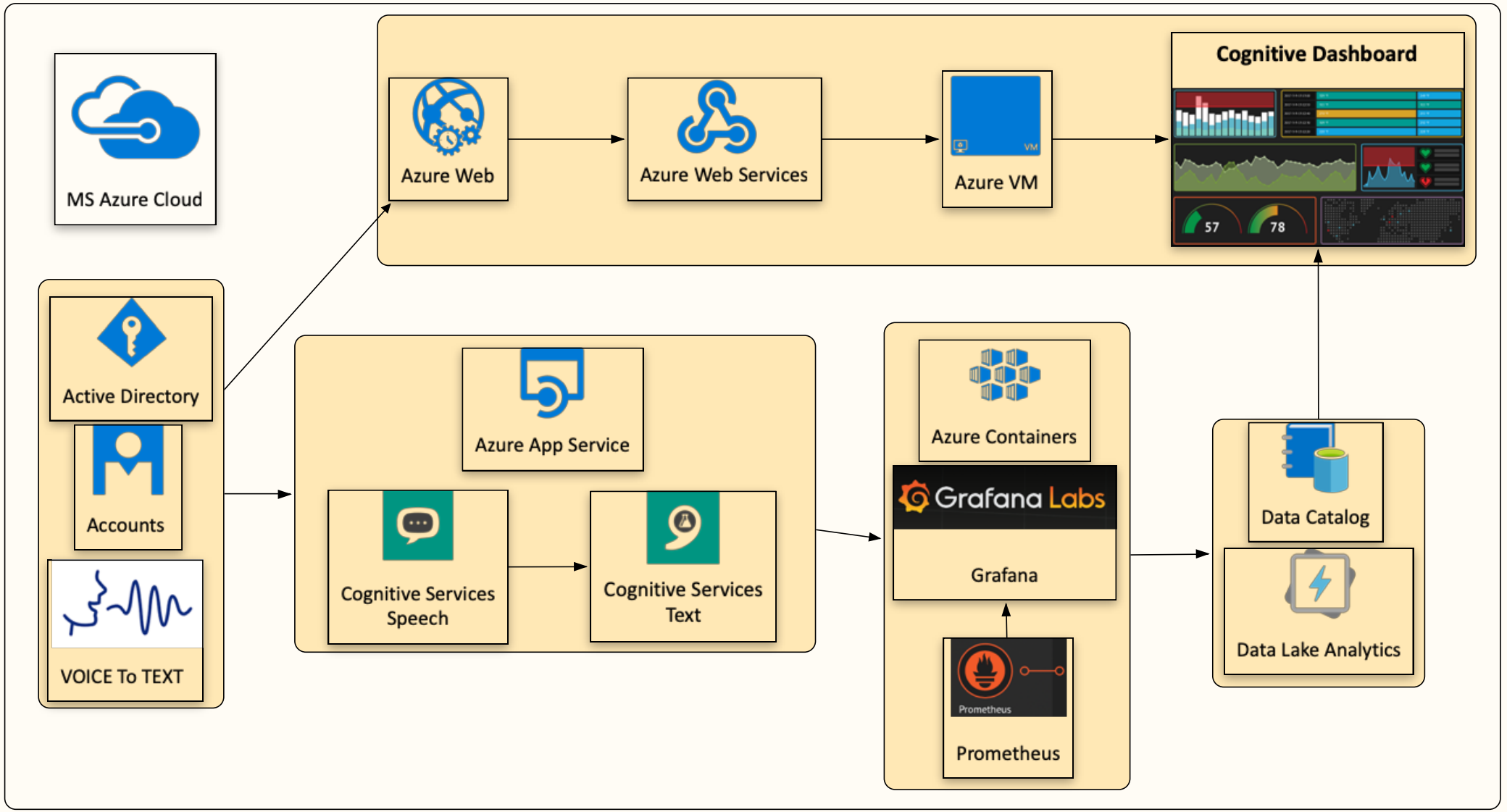
- Processing enabled by Cloud AI



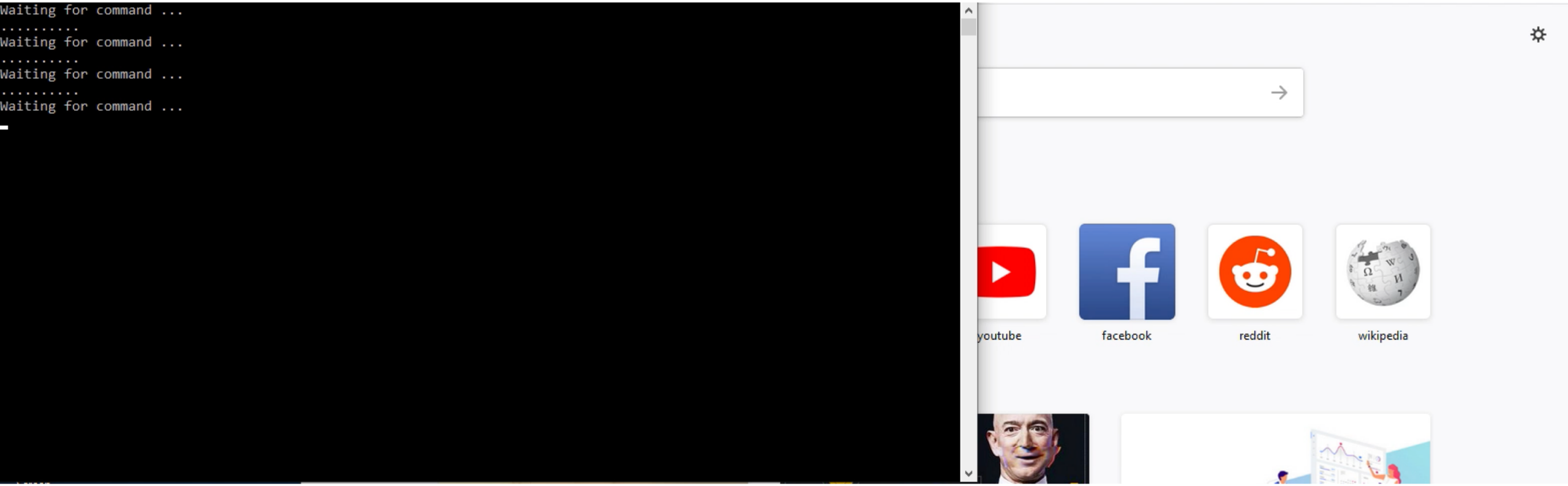
- Shrink AI to local resources
  - latency of NLI



Use Case 3: Cognitive Interfaces for Monitoring: MS Azure implementation



VIDEO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